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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/502,428	07/23/2004	Jochen Fuhrer	PC10334US	8132
23122	7590	10/17/2005	EXAMINER	
RATNERPRESTIA			WILLIAMS, THOMAS J	
P O BOX 980			ART UNIT	
VALLEY FORGE, PA 19482-0980			PAPER NUMBER	

3683

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/502,428

Applicant(s)

FUHRER ET AL.

Examiner

Thomas J. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 10-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. Acknowledgment is made in the receipt of the amendment filed August 8, 2005.

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,231,134 to Fukasawa et al. in view of either US 6,709,075 to Crombez et al. or JP 9-37407 to Ibaraki et al.

Re-claim 10, Fukasawa et al. teach in figures 8A and 8B a method for controlling a regenerative and anti-lock brake system, comprising the step of: identifying the termination of the ABS control phase S106; determining a braking demand at the termination of the ABS control phase; applying post ABS regenerative braking by the regenerative brake system at the termination of the ABS control phase based on the determined criteria, the post ABS

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regenerative braking is modified compared to a regenerative braking operation prior to entry into the ABS control phase, see S119. Regenerative brake commands are compensated at termination of the ABS control phase.

However, Fukasawa et al. fail to specifically teach a determination of the coefficient of friction upon reentry into the regenerative brake phase. Both Crombez et al. and Ibaraki et al. teach the step of determining the coefficient of friction when having to control a regenerative brake system. Each teaches that this step improves the braking performance of the regenerative brake, by responding to current road situations. It would have been obvious to one of ordinary skill in the art to have provided upon transitioning from the ABS control phase to the regenerative control phase in Fukasawa et al. a step of determining a coefficient of friction as taught by both Crombez et al. and Ibaraki et al., thus improving the regenerative braking control phase.

Re-claim 11, the regenerative brake provides the demanded brake power to a maximum value, corresponding to a friction coefficient of the road surface, upon which the conventional brake system assumes control.

Re-claims 12 and 14-16, a time delay period exists during transition from the ABS to the regenerative control phase, Fukasawa et al. teach a blended brake system in which the regenerative braking is limited to a predetermined value varied in dependence on the prevailing brake pressure in the wheel, any braking demand in excess of the regenerative braking will be generated by the conventional brake system.

Re-claim 13, Fukasawa et al. as modified fail to teach the specifics of the predetermined time period. It is the opinion of the examiner that the time period in Fukasawa et al. would have

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a specified length. It would have been obvious to one of ordinary skill as a matter of design choice to have provided the system of Fukasawa et al. with a predetermined time period between 1 and 3 seconds, since applicant has not disclosed that having the time period within the specified parameters solves any specific problem or is for any particular purpose and it appears that the system of Fukasawa et al. would have performed equally well within the recited time period.

Re-claim 17, the regenerative brake system is active on the drive wheels, see figure 1.

Re-claims 18 and 19, see figures 8A and 8B.

### *Response to Arguments*

5. Applicant's arguments filed August 8, 2005 have been fully considered but they are not persuasive. It is the position of the examiner that Fukasawa et al. does address the control of the regenerative brake system upon the termination of the ABS control mode, see specifically figure 8B. In particular step 119 appears to indicate that regenerative brake commands are generated upon ABS termination, and these command values are compensated when compared to previous regenerative brake commands.

### *Conclusion*

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Thomas Williams whose telephone number is 571-272-7128. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan, can be reached at 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-6584.

TJW

October 13, 2005

THOMAS WILLIAMS  
FIVE EIGHT TWO SEVEN TWO SEVEN ONE TWO

Thomas Williams  
AJ 3683  
10-13-05